

REMARKS

This paper is filed in response to the final office action mailed on April 28, 2005. Claim 1 has been amended; claim 12 has been added; claims 5-8 and 10-11 are withdrawn; claims 1-4, 9 and 12 are pending.

As a new basis of rejection, the Patent Office rejects claims 1, 3-4 and 9 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,180,969 ("Yang"). Applicant respectfully submits that Yang, commonly assigned with the present application, cannot serve as an anticipating reference for the following reasons.

At the outset, under MPEP § 2131,

[t]o anticipate a claim, the reference must teach every element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Citing, Verdegaa Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051; 1053 (Fed. Cir. 1987).

The Patent Office takes the position that the spacer insulation layer 706 of Fig. 7C of Yang corresponds to the forming of a spacer insulation layer of part c of amended claim 1. However, taken in context, the only similarities between the Yang layer 706 and the spacer insulation layer 39, 40 of the present application is the fact the layer 706 of Yang includes a pad oxide layer, a buffer polysilicon layer and a nitride layer and therefore includes a nitride layer. Other than including a nitride layer, the layer 706 of Yang does not correspond to the claimed spacer insulation layer because (1) Yang's layer 706 is not formed on top of a low voltage buried photodiode doping region as set forth in claim 1, (2) Yang's layer 706 does not cover a low voltage buried photodiode doping region in an active region while another portion of the layer 706 is etched on a side opposite of a transistor from a low voltage buried photodiode doping region and (3) therefore, Yang's layer 706 does not provide a protective cover for any photodiode doping region.

In contrast, the Yang layer 706 that is used as a wet oxidation mask for forming a field oxide layer before a photodiode is formed. Thus, the Yang layer 706 is used as a mask before the formation of a photodiode while the layers 39, 40 of this application and as recited in amended claim 1 are used as a mask after a low voltage buried photodiode doping region has been formed. Thus, the layer 706 of Yang does not correspond to the layer recited in part c of amended claim 1 when read in context with preceding part b and

succeeding part d. Accordingly, Yang cannot teach or suggest all of the elements of amended claim 1 and therefore the anticipation rejection of claims 1, 3-4 and 9 is improper and must be withdrawn.

Next, in a new rejection, the Patent Office rejects claim 2 under 35 U.S.C. § 103 as being unpatentable over Yang in view of newly cited U.S. Patent No. 6,611,037 ("Rhodes"). However, Rhodes is only cited for the proposition that it discloses an oxide layer within a thickness range as recited in claim 2. However, because Yang, the base reference, fails entirely to teach or suggest the space insulating layer that is remotely similar to that of amended claim 1, no hypothetical combination of Yang and Rhodes teaches or suggests every element of amended claim 1 and therefore the obviousness rejection of claim 2 is improper. Neither Yang nor Rhodes teaches or suggests a space insulation layer that is used to cover a low voltage buried photodiode doping region and that is disposed between a low voltage buried photodiode doping region and a spacer block as recited parts b-d of amended claim 1. Therefore, the obviousness rejection fails to meet the requirements of §§ 2142 and 2143.

Finally, the new claim 12 does not include new subject matter but, instead, merely includes material canceled from amended claim 1. Thus, claim 12 does not constitute new matter and does not raise any new issues as the subject matter was already before the Patent Office.

Finally, applicant respectfully submits that this amendment is in full compliance with Rule 116 because it raises no new issues and only responds to what applicant believes is an erroneous position regarding the layer 706 of the Yang reference. Thus, no new issues are raised, no additional searching needs to be performed and applicants respectfully submit that this application is in a condition for allowance.

An early action indicating the allowability of claims 1-4, 9 and 12 is earnestly solicited.

The Commissioner is authorized to charge any fee deficiency required by this paper, or credit any overpayment, to Deposit Account No. 13-2855.

Dated: June 28, 2005

Respectfully submitted,

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